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ABSTRACT

A practicum project emphasizing critical thinking skills was undertaken in an eighth grade history class to make students aware of the nature and seriousness of plagiarism. The 10-week unit was preceded by a reading comprehension test and an essay assignment on a major Civil War battle. Plagiarized portions of the essays were highlighted and the percentage of plagiarism was determined and recorded at the top of each essay. The students were then taught skills to help them decrease plagiarism. An integrated approach incorporating notetaking skills, reading comprehension, paraphrasing skills, writing skills and several summarizing techniques was used. During writing assignments, students were also allowed to use an informal reference page in any form and style they chose to encourage them to give credit when credit was due. At the end of the unit, students were again given a reading test and a writing assignment. Results revealed improved reading comprehension and significantly reduced instances of plagiarism. (Thirteen references and two appendixes containing the results of the reading and writing tests are attached.) (KEH)

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DECREASING PLAGIARISM
USING CRITICAL THINKING SKILLS

by

ANN W. HALL

A Practicum Report
submitted to the Faculty of the Center for the Advancement of Education of Nova University in partial fulfillment of the requirements for the degree of Master of Science.

July 1986

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Date July 10, 1986

ABSTRACT

DECREASING PLAGIARISM USING CRITICAL THINKING SKILLS

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Descriptors: Critical Thinking Skills/Critical Reading Skills/Interpretive Skills/Comprehension and Translation Skills/Summarizing Skills/Essay Writing Skills/Plagiarism/ Ethics in Composition Writing/Attitudes Toward Plagiarizing

This program is a positive approach which is needed at the middle school level to make students aware of the nature and seriousness of plagiarism and to prevent the growth of this practice as students go through the higher levels of education. In order to decrease plagiarism and maintain the effects of that learning, an integrated approach which incorporates notetaking skills, reading comprehension, paraphrasing skills, writing skills and several summarizing techniques gives students the skills they need to prevent plagiarism. Also, students should be allowed to use an informal reference page in any form and style they choose to encourage them to give credit when credit is due.

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CHAPTER I

PURPOSE

The setting for this practicum project was a middle school located in a medium-size community of approximately 40,000 residents on the east coast of Florida. The socio-economic level of this community is slightly above average, due to the high degree of technological industries in the area. The school district extends 70 miles from the north to the south and is therefore divided into three areas. The school enrollment of 833 students is broken down into 659 white students, 156 blacks and 18 students representing other minority groups, mainly Spanish and Oriental. There are slightly more boys than girls--449 to 384. Of the 38 faculty members, 40 percent have a masters degree. The average pupil-teacher ratio is 23:1.

The author teaches both phase III and phase IV eighth-grade American history. This practicum project was conducted with a target eighth-grade class, or cluster group, of phase IV students (those who score on the eighth and ninth stanine levels on a standardized achievement test) within a history classroom setting.

The target class was composed of 28 students: 13 boys and 15 girls. The racial composition was 22 whites and four blacks.

According to national standardized achievement tests, writing skills have decreased since the 1960's. In addition, the area high school has indicated that the target middle school needs to improve the writing skills of its students. More specifically, the area high school prefers its incoming ninth-grade students to be more knowledgeable of the process of writing essays and term papers from reference material. Through teacher exchanges and other forms of communication between the area high school and this middle school, the high school social studies department has indicated that plagiarizing is a big problem, and they feel instruction should be given in the middle school to minimize it.

Through past experience, the author has found that, when given a biographical essay assignment in history, eighth-grade students typically copy the assignment directly from the reference material. When questioned about what they learned from writing their essay, they can remember few details about the person, thus defeating the purpose of the assignment. Moreover, at the middle school level, students do not realize they are plagiarizing, or stealing another person's ideas, and do not realize the legal consequences of doing so.

A high percentage of students from this school district enter college after high school and it is very important

that this school district develops their students' writing skills. It is vitally important that these students do not develop the practice of plagiarizing and are made aware of the consequences.

On a recent biographical essay assignment, it was determined that 95 percent of the students in this specified class copied directly from the reference material without paraphrasing, summarizing or giving credit to the author of the material. However, at this grade level a more acceptable rate of plagiarizing would be in the 25 percent range. Therefore, at least 70 percent of the students of this specified class needed to learn to summarize reference material without plagiarizing.

The ultimate goal or purpose of this research project was to significantly decrease plagiarism in the target eighth-grade class by emphasizing critical thinking skills.

It was expected that over a ten-week implementation period, 70 percent of the students in the target group would decrease by 50 percent the amount of their plagiarizing when summarizing from reference material. To determine if a 50 percent reduction in plagiarizing occurred, a pretest-posttest evaluation design was used in which the number of times plagiarism occurred in each of the writing assignments was counted and compared.

In addition to reducing plagiarism, it was expected

that reading comprehension levels would increase. It was estimated that 50 percent of the students in this target group, over the same ten-week period, would increase their reading comprehension levels at least four percent as a direct result of acquiring summarizing skills and other critical thinking skills used to avoid plagiarism. The Iowa Silent Reading Tests was administered in a pretest-posttest evaluation to determine if an increase in reading comprehension had occurred.

Other outcomes the author expected were an improvement in notetaking skills, study skills and writing skills as a result of the activities used to improve summarizing skills. It was also expected that an increase in the above skills would result in a parallel rise in students' self-esteem since they would have enhanced many needed educational skills and, specifically, the necessary skills and abilities needed to avoid plagiarism. However, these variables were not tested due to the necessity of limiting the scope of this project. Nonetheless, the testing of these variables would make an interesting future project for this author.

CHAPTER II

RESEARCH AND SOLUTION STRATEGY

Plagiarism is a difficult term to define precisely and to document since it can appear in a variety of forms. It is as old as education itself, but the term comes from the Latin word "plagiarus", meaning kidnapper (Hawley, 1984). On the elementary school level we call it "copying", but as the student moves through the educational system, it becomes plagiarizing (Geosits and Kirk, 1983). Plagiarism can be obvious, e.g., reproducing word for word any portion of someone else's writing with no credit given, or it can be nebulous as when one paraphrases another's ideas without giving credit (Glatt and Haertel, 1982). Perhaps the best definition of plagiarism is offered by Hawley (1984). According to him, plagiarism is best conceptualized as existing along a continuum of behaviors ranging from sloppy paraphrasing to the intentional copying of someone else's work verbatim without giving credit to the source. Viewed as a continuum, the problem becomes one of determining the line of demarcation between acceptable and unacceptable behavior.

Legal and career consequences of plagiarizing can be serious. According to Brogan and Brogan (1982), those who

must depend on using the ideas and work of others should be relegated to the role of technicians rather than administrators. Hawley (1984) warns that in recent years state legislatures and courts have used legal means to focus on the problem of student cheating--particularly with respect to "term paper mills".

On the other hand, Holbrook (1971) criticizes certain legal principles and procedures, which were designed to protect the property of writers, that have come to be exploited by publishers for their own purposes. He complains that it is difficult and sometimes impossible to obtain permission to quote from published material. This trend has serious consequences for cultural freedom, since critics cannot freely quote from books, plays, etc., and therefore cannot do an adequate job of critiquing. This is an infringement of the right of a free press. He calls for a clear public statement on our rights to quote freely in critical works.

Explanations as to why students plagiarize are varied and complex. Teachers may actually encourage plagiarism if they do not give explicit instructions on how to take notes from reference material; how to summarize and paraphrase the reference material; and how to give proper credit when necessary (Vargas, 1985). Students imply

that assignments beyond their abilities as well as the pressure of grades encourage them to plagiarize (Carroll, 1982). Broz (1977) agrees with this inference. She says a ten-or fifteen-page report is an unrealistic assignment for middle school students and is unnecessary for the high school student because there is more value to a short, well-written paper of one or two pages. In other words, the shorter the paper, the less opportunity to plagiarize since more summarization skills will be used.

Broz (1977) implies that plagiarism is a difficult concept for students to understand and that it occurs more from students' ignorance and naivete´ than from the attempt to deceive. High school students seldom consider plagiarism violations to be as serious as their teachers do (Vargas, 1985). However, plagiarism in its worst form embodies a cynical philosophy of life--that individual effort is worthless and everything has its price (Hawley, 1984).

At the higher educational levels it is assumed that basic instruction as to what plagiarism is and how to avoid committing it has been given at the lower levels of education. On the other hand, those in the lower levels of education feel they must concentrate on basic skills and that there is little they can do to prevent plagiarism, thereby leaving it up to the higher levels to do the job.

However, any teacher who assigns a report has the responsibility to stress more than library skills. It is essential that teachers teach the skills necessary to complete the assignment correctly.

The following methods gleaned from the author's research have been used successfully by other educators to decrease plagiarism: (1) emphasize notetaking skills (Vargas, 1985); (2) use a six-question technique (Geosits and Kirk, 1983); (3) educate as to the meaning and consequences of plagiarism (Hawley, 1984); (4) use a "personnoting page" to acknowledge those who help (Carroll, 1982); (5) inform students that objective methods to verify plagiarism will be used (Glatt and Haertel, 1982); (6) emphasize paraphrasing and summary writing (Brogan and Brogan, 1982); and (7) use a "controlled report" technique (Broz, 1977).

Vargas (1985) has found that middle school teachers encourage their students to use library and research skills but give little instruction to students on how to deal with what they find. Nonspecific instructions relating to jotting down the main ideas are given, but little else. She recommends incorporating into the English curriculum formal training in note taking to help the students master the skills of abstracting the main ideas, paraphrasing and summarizing the facts. She suggests that students be taught

to consider the potential uses of material as they skim the reference material. To help them with this they should formulate questions and look for the answers as they skim the reference material. "The steps involved in compiling information for a report may seem obvious to a teacher, but to a fifteen-year-old it's an experience as frightening as driving a car and far less appealing" (p. 43). Vargas also encourages teachers to define, explain and illustrate the outline, precis, direct quotation and paraphrase. Then students can practice using these skills by writing several short papers which will be more beneficial to them than writing one long paper.

To decrease copying at the elementary level, Geosits and Kirk suggest teaching students to use a six basic question technique that journalists rely on when writing a news article: who, what, where, when, why and how. Students are instructed to write down as many questions as they can, relating to each of the six categories, before they begin their research. When students find the answers to their questions they have the building blocks of their reports.

An interesting twist to giving credit is used by Carroll (1982). Instead of being inflexible as to the correct way to footnote and document sources of help,

Ms. Carroll suggest allowing students to use a "person-noting page". On this page, between the cover sheet and text, students acknowledge everyone who even remotely helped them with their paper. As an incentive, it can be written in any form, tone and voice. Students enjoy revealing their individuality on this page instead of being concerned about the correct way to give credit. She adds that this constant crediting eventually becomes habitual, enjoyable and decreases plagiarism.

Glatt and Haertel (1982) believe that if students are convinced that objective methods exist to verify the originality of their compositions, plagiarism will be substantially reduced. They use the cloze procedure to detect plagiarism. Passages are selected from the students' compositions; certain words are replaced by a standard size blank; and, within a specified time-frame, students are asked to fill in each blank with the word they think is missing. Glatt and Haertel hypothesize that if one is given a cloze test on one's own sample of writing, one should be able to duplicate the deleted items. It is emphasized that the cloze procedure cannot demonstrate conclusively that plagiarism has occurred, but that plagiarism was fairly likely. The only proof of plagiarism is a direct comparision of the submitted work to the plagiarized source.

Brogan and Brogan (1982) and Broz (1977) emphasize the teaching of summarizing skills. Brogan and Brogan deal with engineering students and technical writing on the college level. They believe students need extensive practice in summary writing of literature reviews. Two suggested ways to write technical summaries are to give a historic overview of the literature or concentrate on one aspect of several research articles. These techniques will increase the necessity of using summarizing skills. Broz, on the other hand, offers several excellent suggestions to discourage plagiarism among seventh graders. She believes a one-or two-page report is a much more realistic assignment for middle school students than a ten-to-fifteen page report, and all the objectives of the longer report can be met in a short report. The short report also allows for the re-teaching and rewriting of the report to correct students' weaknesses. The key to her method is the "controlled report" which helps the students limit the topic. The steps consist of: (1) turn the topic sentence into a question which can be answered by the report (this effectively controls the topic and makes more sense to middle school students than a topic sentence); (2) gather information which provides supportive evidence to the question; (3) students write down notes in their own words--no sentences are allowed; (4) determine headings from notes

and organize notes into an outline; (5) write a quick rough copy from the outline; and (6) write a final copy. After several practice runs as a group, the students are ready to attempt an individual report.

In an effort to prevent plagiarism, educators have defined and explained it, warned and threatened serious consequences for it, and still it continues. What, then, is the answer? There probably is no best answer that will work for everyone in every situation. Nevertheless, it is important that students be made aware at an early age of the meaning of plagiarism and the importance of refraining from this practice before it becomes a habit.

According to this author's philosophy, this awareness process should begin in the middle school grades, if not at an earlier level. There is no need to be negative in creating this awareness, thereby instilling a dread of writing. This research has revealed several excellent methods for decreasing plagiarism; however, most of these methods call for a single approach, or the concentration on a single skill, to bring about a decrease in plagiarism. This author believes that the concept of plagiarism and the elimination of plagiarizing cannot be taught effectively by emphasizing only one skill or technique. This complex concept, in order to be understood and reduced to an acceptable level at the middle school level, must be

taught using a combination of many methods; e.g., teaching: finding the main ideas and the supporting statements; summarizing and paraphrasing skills, note-taking skills, writing skills and allowing the students to give credit informally, rather than using a prescribed method that varies from teacher to teacher and school to school and must constantly be relearned. Using this multi-method approach of teaching reading and writing, which utilizes critical thinking skills, will give students confidence in their ability to avoid plagiarizing and have a positive effect on self-esteem.

The above-mentioned teaching methods correspond with activities on various levels of Bloom's Taxonomy of the Cognitive Domain. For example, finding the main idea and the supporting statements are activities contained in Level IV, Analysis; the ability to summarize and/or paraphrase what one has read are activities contained in Level II, Comprehension, Level III, Application, and/or Level IV, Analysis.

The author has chosen to use critical thinking skills, with an emphasis on summarization skills, as the best method for decreasing plagiarism for two reasons. First of all, it is a positive solution to the problem. Simply defining and explaining plagiarism and the consequences therefor and using threats to prevent it is a negative approach and does not give students the skills they need

to avoid plagiarizing. Secondly, students will acquire and/or increase several valuable skills, rather than simply learning the correct procedures for giving credit in order to avoid plagiarizing. Summarizing is the key skill to be emphasized because it is composed of several other skills: the ability to ascertain the most important ideas; categorize those ideas into main ideas and supporting ideas; and the ability to combine those ideas to make a more concise statement by using one's own words to reflect the author's ideas. At the same time, it is a very vital and useful skill because it is used in reading comprehension, writing skills, note-taking skills and study skills.

According to Palincsar and Brown (1983), reading comprehension can be increased by having students summarize the text. First, questions are asked about the title to predict what the topic is about. After reading the topic, the question is answered by summarizing the topic.

Wilcox and Wilson (1979) have also found that students who were asked to write a sentence in their own words describing what they understood after reading each paragraph of a story, scored 50 percent better on a reading comprehension test of the material than students who only read the story.

Poor readers are also poor writers according to Gersten and Lieberman (1979). Therefore, they emphasize the integration of reading and writing into one course to encourage the transfer of skills from one area to the other, thereby strengthening both reading and writing skills.

The skills needed to summarize are also valuable components of study skills. Wilcox and Wilson (1979) maintain that knowing how to study effects learning and that study techniques may be a better determinant of academic success than ability.

If intelligence is regarded as a set of problem-solving skills which can be acquired, rather than merely a predetermined ability, then summarization skills, as a critical thinking skill, have great usefulness since these skills are used in reading comprehension, writing skills and study skills.

How are summarizing skills related to reading comprehension? An interesting study was conducted by Winograd (1983) on the difficulties students experience in summarizing texts. In a comparision of poor and good eighth-grade readers, he found several interesting correlations. He learned that good and poor readers were aware of the purpose of summarizing. He also found that ". . . the ability to identify important elements in a text is a

strategic skill that underlies both comprehension and summarization" (p. 28). However, good and poor readers differed as to what they considered important ideas. Good readers could consistently identify, based on context clues, what the author of the text considered to be the important ideas. Poor readers, on the other hand, chose as important those ideas that were of high personal interest to them and did not pick up on what the author thought was important. Also, the ideas poor readers selected as important tended to be supporting ideas rather than the main ideas. An explanation for this is that supporting ideas are more concrete and offer more visual detail.

In selecting important ideas, good readers chose about one-third of their ideas from the first quartile of the text, decreased their number of choices in the second and third quartiles and increased their number of choices of important ideas from the fourth quartile. Almost one-half of the poor readers' choices came from the first quartile and then the number of choices steadily decreased in each quartile.

Poor readers and good readers also differed in their summarization techniques. Good readers consistently used the same previously chosen important ideas for their summaries of the text. But, poor readers used two unrelated strategies--one for deciding what ideas were important, and another for selecting the ideas to include in their

summaries. The good and poor readers used approximately the same number of words in their summaries, but good readers included more ideas. Good readers were more skilled in combining ideas to form a concise statement. Winograd's (1983) explanation for these differences is that summarizing not only requires a reader to construct an internal representation of the author's message, but requires an additional step of determining the relative importance of the elements in the internal representation. Poor readers have difficulty in both steps of this task--constructing an internal representation of the author's message, and in combining ideas of relative importance to make a concise statement. Winograd concluded that poor readers need explicit training in higher order comprehension strategies rather than training in decoding skills only.

Obviously, summarization is a complex process which incorporates other skills and is a difficult process for the middle school student to master.

Using as a base Winograd's (1983) findings and Gersten and Lieberman's (1979) belief that reading and writing should be integrated into one course, this author concluded that in order to significantly decrease plagiarism and maintain the effects of that learning, there is a need to improve a variety of critical thinking skills. It appeared

logical to this author that the solution strategy for this research project should incorporate the explaining (and allowing for practice time) of the following skills: determining the main ideas and then the ideas that support the main ideas; paraphrasing and the combining of ideas (emphasizing these skills should help the poorer readers to increase their reading comprehension and summarization techniques); and the structure of the paragraph and the essay should be explained and compared. The next step should be group practice of writing a summary of a reading selection by finding the main ideas, the supporting ideas and then the concluding statement. Various techniques should be used to teach summarizing skills including: note-taking skills (Vargas, 1985); the six-question technique (Geosits and Kirk, 1983); and the "controlled report" technique (Broz, 1977). The "personnoting page" technique (Carroll, 1982) should be used to teach documentation procedures.

CHAPTER III

METHOD

This research project was implemented during a ten-week period from March 10 through May 23, 1986, allowing for a spring break of one week. The first week was used to collect the baseline data necessary for a later comparison to determine if the objectives of this research project had been met. On March 10, 1986, students in the target group were given a reading comprehension test to establish their reading comprehension level using the Iowa Silent Reading Tests. On March 11, the students were instructed to write a one-page summary (approximately 100 words) of a major Civil War battle in their own words, but no specific instructions on how to do this was given. Their choice of battles was restricted to the Battle of Gettysburg, the First Battle of Bull Run, and the Battle of Fort Sumter. A careful analysis of the essays was made to determine the extent of plagiarism by comparing their essays to the reference material used--in this case, encyclopedias. Plagiarized portions of the essays were highlighted with a yellow magic marker and tallied. The percent of plagarism was indicated at the top of each essay and returned to the students on March 14. The

highlighted portions of each student's essay called attention to their plagiarism. An explanation of plagiarism was then given to the target class and the serious consequences of this practice explained and emphasized. Individual students were asked what they learned about the battle about which they chose to write, and it was apparent that they remembered few details about the battle. The majority of the students admitted the writing assignment had served no useful purpose since no learning took place. The students discussed possible ways to decrease their copying and the advantages of learning specific skills to do so.

The author has had considerable training in teaching writing and feels it is important to prevent or overcome any negative attitudes students might have toward writing by making their writing activities enjoyable and by minimizing criticism of their writing. For this reason, the students were informed they would be learning specific skills that would enable them to avoid plagiarizing, and at the same time, help them increase their reading comprehension and writing skills.

Initially, all activities were conducted as group activities in order to maximize the learning experience. On March 17, instruction was given on how to determine the main idea of a reading selection. Students

then did exercise 1, "Finding the Main Idea", pages 1-7 of Mastering Social Studies Skills, a workbook used by this school district in the middle schools. On March 18, determining the supporting ideas and the concluding statement of a paragraph or reading selection was explained. The students did exercise 2, "Finding the Facts", pages 8-14 of their workbooks. The following day, March 19, a comparison of the paragraph and the essay was made, and it was pointed out that the parts of a paragraph have counterparts in the essay. Activities 1 and 2, page 81 of Teaching and Applying Basic Skills Through Social Studies, were completed by the students.

By the fourth day, March 20, the class was ready to learn about paraphrasing and the combining of ideas to be more concise. A lecture was given by the author explaining techniques of paraphrasing. Single sentences were used in a group activity to emphasize how different words could be used, usually in a more simple way, to express the same idea as the original sentence. Students then did exercise 6, "Writing Sentences and Paragraphs", pages 35-40 of Mastering Social Studies Skills.

To decrease the temptation to copy from the text, several techniques were taught. Some of these techniques involved note-taking skills. One technique that was explained was the six-question technique (Geosits and Kirk,

1983), to get the creative process going. This technique consisted of writing down as many questions as possible concerning who, what, when, where, why and how before the reading selection was read. Then, the reading selection was skimmed to find the answers and brief notes jotted down for the answers--no sentences were allowed. Students then had to construct a brief essay using the questions and answers as building blocks.

Another note-taking technique that was explained was the "controlled report" technique (Broz, 1977). This technique serves to limit the topic of an essay by determining the most important question one could ask about a reading selection. Using this question as the topic sentence, one gathers information which provides supportive evidence to the question. One then writes down notes in one's own words--again, no sentences are allowed--to answer the question. Next, one writes a brief essay from one's notes. The question is answered in the concluding statement, or paragraph, with supporting evidence of the answer in the body of the essay.

On March 24, the "personnoting page" technique (Carroll, 1982), was used to instruct students on the necessity of giving credit when credit is due. It was emphasized that students could state the credit information in any order or form they chose as long as all necessary information was given. In

addition, students were encouraged to acknowledge other sources of help including individuals who assisted with their writing assignment in any way. Students were allowed to do this in their own style, using humor in some cases, to express their individuality. The students really enjoyed this activity and made a game of writing the most humorous "personnoting page". (This page resembles an acknowledgment page.)

By March 25, the students were ready to put the above-mastered skills to use. Summarization skills, which include all of the above techniques, were discussed again, and, for the poorer readers, special emphasis was placed on finding the topic sentence and determining the relationship between the topic sentence and the supporting sentences. It was also stressed that the same ideas one chooses from the reading selection as the important ideas should also be the ideas included in one's summary, and that one can include more ideas in a summary if one combines ideas. The class began to practice summarizing by doing very simple exercises and gradually working through to more difficult exercises, some of which are found on page 25 of Teaching and Applying Basic Skills Through Social Studies. Some of these activities included: (1) choose the sentence that best summarizes this paragraph; (2) restate the author's ideas contained

in that paragraph in your own words, using one sentence; (3) restate a reading selection containing several paragraphs by putting the author's ideas into shorter statements. These activities were completed by the students between March 25 and 27, 1986. After a spring break of one week, the students continued this research project by doing a few activities similar to the ones mentioned above to refresh their skills on April 7, 1986.

From April 8 to May 16, more difficult summarization activities were used. The first of these activities consisted of a group activity in which the author and the class used a lengthy reading selection (approximately eight typewritten pages) and went through each paragraph to determine the main idea. The students then restated the author's ideas in their own words using one sentence, which the author wrote on the chalkboard. In some instances, several paragraphs about the same idea were combined and one sentence used to restate the author's ideas. A total of eight sentences which reflected the most important ideas of the reading selection were written on the chalkboard. The students were then instructed to write an essay (individually, without the benefit of the reading selection itself) which included the main ideas contained in the eight sentences written on the chalkboard.

Students were allowed to elaborate on these ideas to explain them, and to combine ideas to be more concise. The end result was some brief essays containing only the required restatement of the eight sentences and some longer essays containing the individual student's own words to express the ideas of the author of the reading selection. This activity was very beneficial to the students because the summarization process was carefully and explicitly executed, step by step, by this author so that the students would know exactly what would be expected of them when given a history report to write.

This author conducted several summarizing activities like the one above, but not in as much detail, to give the students enough experience in a group situation to where they could adequately handle an individual summarizing activity.

After the students had mastered the above techniques of making notes stating the main ideas of the reading selection and then writing an essay from those notes, they were prepared to individually write a summary of a reading selection using their preferred note-taking technique.

In the next activity, students were given a reading selection and instructed to write a 100 word summary.

When they completed their summaries, the reading selection was taken from them and they were then asked to restate their 100 word summary in 75 words. A series of shorter and shorter summaries, based on their previous summaries of the same sketch, were required, forcing the students to put the summaries into their own owrds as they shortened each summary. The students enjoyed this activity immensely and this author devised a game of this series of summaries to challenge the students. The game was patterned after the tv show Name That Tune in which contestants attempted to name the tune after hearing a specified number of notes. The contestants challenged each other by claiming to be able to name that tune after hearing fewer notes than the other contestant. The students of the target class each attempted to write the briefest summary of a reading selection which best expressed the ideas of the author. The students then challenged each other by stating they could summarize the reading selection in ____ (blank) number of words. They then read their summary to the class and this author determined the summary that was the most articulate and concise and announced a winner. This activity was repeated many times since the students enjoyed the challenge and the group interaction. This author also pointed out why each student's summary had been chosen as the best thereby reinforcing the skills needed to summarize.

At the end of the ten-week implementation period (on May 21, 1986), the students were asked to write a summary of a biographical sketch provided them by this author as their posttest evaluation. A comparison of their summaries and the biographical sketch was made and the percentage of plagiarizing determined. This percentage figure was compared with the percentage figure of the pretest essay to determine if the students had decreased the amount of their plagiarizing.

On May 23, 1986, a reading comprehension posttest was administered. Data, as to reading levels, from the pretest and posttest were compared to determine if reading comprehension levels increased.

This writer initiated, explained and monitored all activities by observing the students and checking their work on a continuing basis throughout the implementation period. The principal of the school verified that the activities took place as described in the preceding pages. (See Appendix C)

CHAPTER IV

RESULTS

This research project was conducted with a target eighth-grade class, or cluster sample, of phase IV students using a quasi-experimental research design. The objectives of this project were to determine if plagiarism could be significantly decreased at the middle school level by emphasizing critical thinking skills, and at the same time, increase reading comprehension levels. Other outcomes such as improvement in notetaking skills, writing skills, study skills and self-esteem were expected as a direct result of the activities used to improve summarizing skills, but were not tested.

It had been predicted by this author before the implementation period began that 70 percent of the students in this target group would show a decrease of 50 percent in the amount of their plagiarizing when summarizing a reading selection. This reduction of plagiarism would be due to the reading comprehension, writing and summarizing activities performed by the students over a ten-week period.

To determine the degree of the reduction of plagiarism, a pretest was administered whereby the students were instructed to write a one-page summary, in their

own words, of a major Civil War battle. No other instructions were given. The choice of battles was limited to the Battle of Gettysburg, the First Battle of Bull Run, and the Battle of Fort Sumter in order to facilitate the comparison of the students' essays and the reference material. Since the students were not aware of the purpose of this writing assignment, the pretest results were precisely what this author had expected. Following student custom, the students had copied their essays directly from the encyclopedia. Plagiarized portions of the essays were highlighted with a yellow magic marker and the percentage of plagiarism was determined and indicated at the top of each essay. 20 of the 28 students in the target class had copied 97 to 99 percent of their essay directly from the reference material. (See Appendix A) The remaining eight students (student numbers 14, 17, 19, 20, 24, 25, 27 and 28) had made weak attempts at paraphrasing the author's ideas which resulted in 75 to 90 percent of their essay being copied from the reference material. It was interesting to note that the 20 students who plagiarized the most even used the same format and style of writing as the reference material. For example, the students who wrote about the Battle of Gettysburg, delineated their essay into three topics: Day One, Day Two and Day Three of the battle just as the reference material had done.

When this was pointed out to them, they grinned sheepishly as it was obvious, even without a comparison, that the essay had been copied in format, style and substance from the reference material.

The average percentage of plagiarism for the class on this pretest was 94 percent. This data was used as the baseline data to compare with the data from the posttest.

The writing posttest consisted of having the target group write a 100 word summary of a biographical sketch which was furnished by this author. Again, an analysis was made to determine the percentage of plagiarism using the same method as in the pretest. The results of this posttest were very encouraging as 22 of the 28 students had plagiarized three percent or less of the reference material. It is to be expected that students would decrease the amount of their plagiarizing in the posttest because they would be aware that the degree of plagiarism would be determined; however, the high percentage of the decrease in this case was due (the author believes) to the activities contained in the solution strategy. The average percentage of plagiarism for the class in the posttest was 10 percent, meaning an 84 percent average reduction in plagiarism was achieved by the class.

It was predicted that 70 percent of the students in the target class would decrease their plagiarizing by

50 percent when summarizing a reading selection. The results of the posttest indicate that 25 of the 28 students, or 89 percent, decreased their plagiarizing by 50 percent or more. The author would like to point out that the three students who did not decrease their plagiarizing on the posttest (student numbers 5, 6 and 7) made almost no attempt at all to avoid plagiarizing. This attitude was typical of their attitude towards the academic subject of this class and to their grades.

Also at the beginning of the implementation period, the target class was given a reading comprehension pretest using the Iowa Silent Reading Tests. This test consists of 50 items which measure the students' ability to comprehend literal detail, to reason in reading, and to evaluate what they have read. Questions that require the students to derive word meaning from the context are also included. There are six short passages to which the students have access when answering questions. Also, the students' short term recall is tested by a second part of the test which consists of a longer passage to which they cannot refer when answering the questions.

A posttest, using the same test and procedure as the pretest was given at the end of the implementation period. When the data from the pretest and posttest was compared, it indicated that the average reading comprehension level

for the class on the pretest was 67.64 percent, and on the posttest the average was 71.75 percent. This resulted in an average increase for the class of 4.1 percent in their reading comprehension levels. (See Appendix B) The results of the posttest also indicated that: (1) 16 of the 28 students in the target class improved their reading comprehension levels; (2) five students' reading comprehension levels remained the same; and (3) seven students' reading comprehension levels decreased. The posttest was given near the end of the school year and this author believes this factor contributed to a low motivation level in the five students whose scores remained the same on the posttest. Another factor which possibly affected the results of two of these five students is that student numbers 22 and 27 were already excellent readers and therefore did not significantly benefit from this solution strategy. As to the seven students who decreased in their reading comprehension levels, there are several possible explanations. This author believes the decrease for student numbers 2, 7, 9 and 19 can be attributed to low motivation and an uncooperative and bad attitude on the part of each of these individuals. This attitude was also reflected in their school work and grades. (Student number nine's decrease is so drastic that it is obvious he did not attempt to do well on the posttest.) These

students generally cooperated and performed well on the activities of the solution strategy, but were not motivated to perform well on the evaluating tests. Consequently, their test scores did not reflect their true reading comprehension levels or the amount of their learning which occurred as a result of performing the activities. Student number 10's decrease can be attributed to the fact that he was absent from school due to illness for several days prior to taking the posttest and, therefore, did not perform at his expected level.

Of the 16 students who improved their reading comprehension levels, 15 students, or 53 percent, improved by four percent or more. The reading comprehension objective for this research project was more than met. The author had predicted that 50 percent of the students in this target group would increase their reading comprehension levels by four percent as measured by the pretest-posttest evaluation design using the Iowa Silent Reading Tests. The results indicate that 53 percent of the students in the target group increased their reading comprehension levels by four percent.

As was expected, those students with the lowest reading comprehension levels on the pretest increased their reading levels by the greatest amount, and, in the majority of the cases, as much as 20 percent. This

dramatic increase in reading comprehension levels can be contributed to two factors: (1) the intensive nature of the activities and the large number of activities performed by the students; and, (2) the comprehensive, or multi-method, approach used in the solution strategy to teach summarization skills. Some of this increase could be attributed to the fact the students took the same reading comprehension test twice; however, in order to minimize the effects of learning by retaking the same test, no feedback as to correct answers was given to the students after the first reading comprehension test. Also, it should be pointed out that there was a ten-week time span between the first test and second test.

In summary, this author's solution strategy was highly successful--it more than met the objectives of this research project. Moreover, the students enjoyed the writing activities which, in itself, is quite an accomplishment.

CHAPTER V

RECOMMENDATIONS

This author plans to incorporate these summarization techniques into a study skills unit which will be taught at the beginning of each school year in her social studies classes. Since study skills powerfully affect learning, increasing these useful critical thinking skills and study skills should give students an advantageous beginning for the school year; therefore, the author recommends that a study skills unit be included in the curriculum of all academic subjects.

The new trend towards an emphasis on critical thinking skills can be addressed by the teaching methods and learning activities in this research project. The writer recommends this multi-method approach of integrating reading comprehension, summarization skills and writing skills be used by middle school teachers in all subject areas and with all phases of students to reinforce critical thinking skills.

This research project will be shared with the author's principal and co-workers at her school. Due to the high percentage of students in this school district who continue their education beyond the high school level, a greater emphasis on study skills is needed. The skills

stressed in this research project, especially notetaking and summarizing skills, are vitally important to the college student's success, and most of them are contained in a booklet published by this school district, Teaching and Applying Basic Skills Through . . . (in each academic subject). It goes without saying that it is essential for college students to possess the skills necessary to avoid plagiarism. Therefore, co-workers at this middle school will be encouraged to emphasize the importance of decreasing plagiarism at the middle school level by giving students specific skills to avoid plagiarizing. This multi-method approach should be used to reinforce critical thinking skills and prevent the seed of plagiarism from taking root and growing.

Furthermore, it is recommended that in-service training be presented for the benefit of all professional educators in this school district to familiarize them with the techniques of this highly successful method of teaching summarization skills. This training would emphasize that, in addition to the need for knowledge of plagiarism and its consequences, students need to be taught the specific skills they need in order to avoid plagiarism.

Enhancing "upper-level" thinking skills is one step toward challenging students to a higher standard, and ultimately, more success in college. It is by steps of small degrees that mountains are conquered!

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APPENDIX A

RESULTS OF WRITING TEST FOR PLAGIARIZING

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RESULTS OF WRITING TEST FOR PLAGIARIZING

	Percent of Pretest Plagiarizing	Percent of Posttest Plagiarizing	Percent of Decrease in Plagiarizing
Student Number 1	99%	0%	99%
Student Number 2	97%	0%	97%
Student Number 3	99%	0%	99%
Student Number 4	97%	7%	90%
Student Number 5	99%	60%	39%
Student Number 6	99%	98%	1%
Student Number 7	99%	50%	49%
Student Number 8	97%	0%	97%
Student Number 9	99%	0%	99%
Student Number 10	99%	0%	99%
Student Number 11	99%	3%	96%
Student Number 12	97%	15%	82%
Student Number 13	98%	0%	98%
Student Number 14	85%	1%	84%
Student Number 15	97%	0%	97%
Student Number 16	99%	1%	98%
Student Number 17	85%	0%	85%
Student Number 18	98%	0%	98%
Student Number 19	85%	0%	85%
Student Number 20	75%	0%	75%
Student Number 21	99%	0%	99%
Student Number 22	99%	0%	99%
Student Number 23	99%	0%	99%
Student Number 24	80%	1%	79%
Student Number 25	80%	1%	79%
Student Number 26	98%	30%	68%
Student Number 27	85%	0%	85%
Student Number 28	90%	0%	90%
Class Average:	94%	10%	84%

APPENDIX B

RESULTS OF READING COMPREHENSION TEST

APPENDIX B

RESULTS OF READING COMPREHENSION TEST

	Reading Level on Pretest	Reading Level on Posttest	Percent of Increase/ Decrease
Student Number 1	37%	63%	+26
Student Number 2	99%	83%	-16
Student Number 3	40%	63%	+23
Student Number 4	72%	93%	+21
Student Number 5	24%	26%	+ 2
Student Number 6	44%	63%	+19
Student Number 7	37%	26%	-11
Student Number 8	93%	99%	+ 6
Student Number 9	88%	22%	-66
Student Number 10	97%	93%	- 4
Student Number 11	67%	83%	+16
Student Number 12	26%	63%	+37
Student Number 13	83%	88%	+ 5
Student Number 14	93%	97%	+ 4
Student Number 15	67%	63%	- 4
Student Number 16	35%	56%	+21
Student Number 17	63%	63%	0
Student Number 18	83%	93%	+10
Student Number 19	72%	44%	-28
Student Number 20	93%	99%	+ 6
Student Number 21	63%	63%	0
Student Number 22	93%	93%	0
Student Number 23	72%	72%	0
Student Number 24	93%	97%	+ 4
Student Number 25	77%	67%	-10
Student Number 26	46%	72%	+26
Student Number 27	93%	93%	0
Student Number 28	44%	72%	+28
Class Average:	67%	71%	+ 4

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